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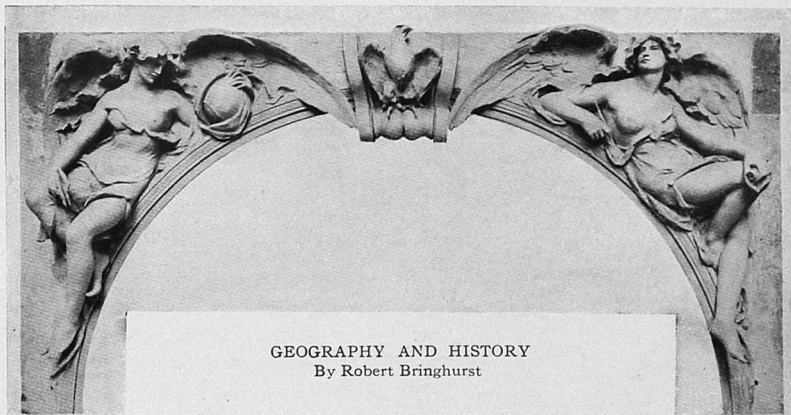
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GEOGRAPHY AND HISTORY
By Robert Bringhurst

CASTING OF BRONZE STATUARY

A detailed account is elsewhere given in this issue of BRUSH AND PENCIL of the process of enlarging artists' models and building up the great staff monuments of the fair at St. Louis. The manner in which bronze statuary is made is entirely different, and the reader will doubtless be interested in the information given below, which is from a practical worker.

I have talked with men, said this worker, intelligent men, who believe that molten bronze is simply cast into a mold, allowed to cool, and then the statue comes out just as the public sees it. Bosh, bosh, bosh! As well say that nailing two planks together make a ship. The man who casts the metal for a bronze statue is deserving of as much fame as the man who designs the model. The least mistake or carelessness on his part and the work of the artist goes for nothing. The statue is imperfect. The public laughs at it, even if it is accepted by the city authorities.

After the plaster model is received from the artist it is laid upon a form and built over with reddish sand. In order to get sand of the proper cohesiveness when worked, and stony hardness when dry, it is necessary to send to France. It is not obtainable in the United States. The best sand comes from within twelve miles of Paris. Proprietors of bronze factories have found out that it is better to get French workmen to handle this sand. The American is too impatient.

This building up of a plaster mold is not so easy as one might think. The sand has to be fitted to it in little chunks of various sizes. These must be fitted snugly, and yet not so close together that they cannot be easily taken apart again when the impression is complete and the mold is dry. This requires patience and lightness of touch.

If a man is impatient and rough he will spoil his work, and must do it all over again. In a big cast there will be two thousand or more of these small pieces, which must be fitted together and accurately adjusted, or the cast will be ruined and all work must be done again.



LIGHT
By A. Lukeman

When the blocks of sand are dry they are taken off the model one by one and carefully refitted. This makes the mold. It is then filled with clay. When the clay is dry the blocks forming the mold are again unfitted and a facsimile of the plaster cast is obtained. Then comes the most delicate part of the work.

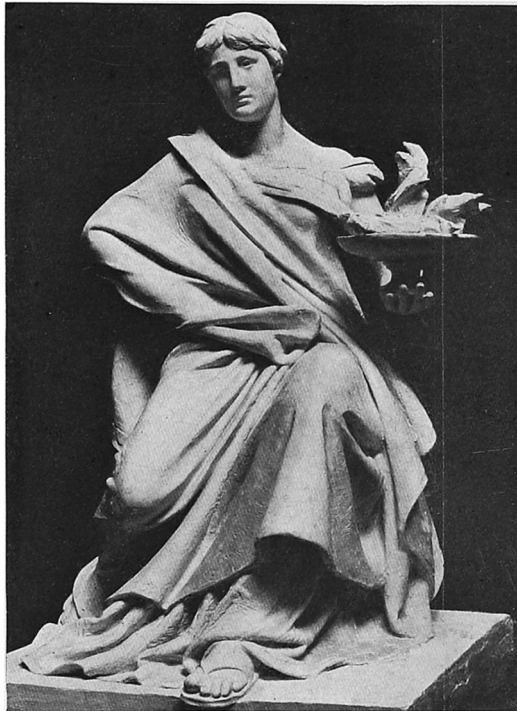
The clay model has to be reduced, or scraped out, until it is an exact but slightly smaller copy of the plaster model. At least one-quarter of an inch has to be taken off its entire surface. The difficulty of doing this may be imagined, especially when the subject is at all ornate, like the Sherman statue at

the Plaza entrance to Central Park, which required the greatest care.

Assuming the reduction of the "core," as it is technically called, to be satisfactorily accomplished, the "core" is introduced into the mold, which has again been put together. Then there is, of course, a difference between the exterior of the "core" and the interior of the mold. The core is steadied with iron rods so that it will remain rigid in the center of the mold, and the glowing molten bronze is

poured in from the top until it completely fills the space between the "core" and the mold, thus forming a thin, quite uniform shell of metal.

After the metal is cold the mold is removed and the clay interior extracted. Then you have the model revealed very much as it will stand before the public, after a few finishing touches. It took about three years to complete the Astor doors to Trinity Church, but the statue of Washington in front of the sub-treasury in Wall Street was finished in about six weeks. That statue gave the makers a great deal of trouble. They tried to work too fast. At the same time it is one of the most beautiful and artistic specimens of bronze casting to be seen in the United States. The alloy used for statue casting consists of ninety parts copper, seven of tin, and three of zinc. The Greeks, when they began to cast in bronze, used eighty per cent copper and twenty per cent tin.



HEAT
By A. Lukeman